

seems conceivable that a spermatozoon of an earlier male, which was for any reason unable to produce a perfect embryo, might enter an ovum without destroying it or causing it to develop, and that the ovum might afterwards be fertilized by a perfect spermatozoon of another male, and develop accordingly. The germ-plasm derived from the first and apparently ineffectual spermatozoon would account for the result as recorded, and the hybrid or mongrel animal would, in fact, have two fathers.

This is hypothetical, of course; but, while waiting for further proof, it may be permissible to set hypothesis against hypothesis.

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On the Identity of the "Cotton Spinner" (Holothuria nigra) of English Authors with Holothuria Forskalii, Chiaje, and on the Occurrence of Cucumaria Koellikeri, Semp., in the Atlantic Ocean.
By Dr. EMIL VON MARENZELLER.

The following observations were evoked by the examination of certain Holothurians which were collected off Sines, on the coast of Portugal, and for which I am indebted to the kindness of Prof. Paulino d'Oliveira, of the University of Coimbra. The collection comprised specimens of *Holothuria Forskalii*, Chiaje, *Cucumaria Koellikeri*, Semp., and *Cucumaria Montagu*, Flem.

Holothuria Forskalii (to which species Ludwig justly assigned *H. cataniensis*, Gr.) was first shown to exist in the Atlantic Ocean in the year 1882 by Greeff. The author referred to found the species in Setubal Bay, while in 1890 Hérouard reported it as occurring at Roscoff. This Holothurian, which is characterized by its external appearance, by the slight development of the calcareous bodies, and the possession of Cuvierian organs, had, however, already been observed long before on the British coast, especially in the West of Ireland, and had been designated "the Nigger or Cotton Spinner" (*Holothuria nigra*). Anyone may convince himself of the justice of this view by comparing the calcareous bodies of *H. Forskalii* with the figures of these structures in *H. nigra* given by Jeffrey Bell ('Catalogue of the British Echinoderms,' London, 1892). For my part I was also able to compare preparations of calcareous bodies furnished to me by the Rev. Canon A. M. Norman, and derived from a specimen of *H. nigra* from Polperro, Cornwall. That this state of affairs, which is interesting from the point of view of animal distribution, remained so long undiscovered, is probably to be ascribed to the insufficiency of the earlier descriptions of *H. nigra*, as well as to the fact that the animals themselves did not come into the hands of those investigators who were acquainted with *H. Forskalii*. Moreover, *Stichopus Selenka*, described by Th. Barrois in 1882 from Concarneau, is certainly nothing else than *H. Forskalii*. The difference shown in the representation of the calcareous bodies will receive correction. It appears that in

the Atlantic Ocean *H. Forskalii* does not attain so large a size as in the Mediterranean.

Cucumaria Koellikeri, Semp., hitherto known only from Sicily and Naples, has likewise under another name figured for some time past as a member of the Holothurian fauna of the Atlantic. I regard *Cucumaria Lefevrii*, Th. Barrois (1882), from Concarneau, as the same species, though certainly the figures of the calcareous bodies do not justify this supposition. I have already explained in my memoir on the Holothurians of the 'Hirondelle,' at present in the press, that it is not advisable to follow Hérouard ("Recherches sur les Holothuries des côtes de France," Arch. Zool. Exp. [2] vol. vii. 1890) in regarding *Cucumaria Lefevrii*, with ten tentacles, as synonymous with Thompson's old species *C. Drumondii*, which is now assigned to the genus *Phyllophorus*. Since I have in the meantime learned to know the species, I can now also protest against Hérouard's attempt to regard *Thyone gemmata*, Pourt., of the American coasts, as of the same value. In the determination of *C. Koellikeri*, Semp., from Sines, I used an original specimen which belonged to Semp.

Cucumaria Montaguï, Flem. (=le Fleurilardé, Dicquemarre, 1778; = *Colochirus Andersoni*, Lampert, 1885; = *Colochirus Lacazei*, Hérouard, 1890), was represented by three quite young specimens measuring from 4 to 8 millim. in length. Jeffrey Bell (*loc. cit.*) has not recognized this conspicuous species, which also occurs on the coasts of Great Britain. I have set forth its synonymy at length in my memoir alluded to above. The examination of these young specimens has decided me to give a new, and perhaps finally satisfactory solution of the question as to what Forbes ('A History of British Starfishes,' London, 1841) understood by his "*Psolinus brevis*." The choice of the generic name proves that Forbes wished to draw attention to the contrast between the dorsal and ventral surface, which distantly recalled *Psolus*. It is precisely this peculiarity that distinguishes *C. Montaguï*, and this it was also that misled Lampert and Hérouard, so as to make them think of *Colochirus*, since in the species of this genus the feet are confined to the ventral surface. The sole difference between the contracted young specimens of *C. Montaguï* from Sines and the figure of *Psolinus brevis* drawn from life, consists in the fact that in the former the feet are more numerous and are not arranged in a single row. It is well known that Lütken referred *Psolinus brevis* to *Cucumaria* (*Ocnus*) *minuta*, F.—*Sitzgs.-Ber. k. Akad. Wiss. Wien, math.-naturw. Classe*, Jahrg. 1893, no. xii. pp. 107-109.

On the Habits of Blennius sphynx, Cuv. & Val., and of *Blennius Montaguï*, Fleming. By M. FRÉDÉRIC GUILLET*.

The construction of the great experimental fish-pond, recently added to the laboratory at Banyuls-sur-Mer, has enabled me to make certain observations which I had vainly endeavoured to carry out

* The observations here described were made at the zoological laboratory at Banyuls-sur-Mer (Pyrénées Orientales).